

AMENDMENT TO THE CLAIMS

1. (Previously Presented) A high throughput method for screening lubricating oil compositions, under program control, comprising the steps of:

(a) providing a plurality of different lubricating oil composition samples comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive;

(b) measuring wear stability of each sample to provide wear stability data for each sample; and,

(c) outputting the results of step (b).

2. (Original) The method of claim 1, wherein the step of measuring wear stability is selected from the group consisting of an extreme pressure wear test, hydrodynamic wear test, corrosive wear test and a combination thereof.

3. (Original) The method of claim 2, wherein the step of measuring wear stability further comprises the step of selectively changing a variety of conditions for measuring wear stability in accordance with the program control, the variety of conditions being selected from the group consisting of duration of the at least one test, load generated during the at least one test, acid amount delivered during the at least one test and a combination thereof.

4. (Original) The method of claim 2, wherein the extreme pressure, hydrodynamic and corrosive wear tests are conducted simultaneously in accordance with the program control.

5. (Original) The method of claim 2, wherein the extreme pressure, hydrodynamic and corrosive wear tests are conducted sequentially in accordance with the program control.

6. (Original) The method of claim 2, wherein the corrosive wear test is conducted simultaneously with at least one of the extreme pressure and hydrodynamic tests in accordance with the program control.

7. (Original) The method of claim 2, further comprising the step of systemizing the outputted results of each of the extreme pressure, hydrodynamic and corrosive wear tests, thereby assembling a library of the outputted results associated with each of the plurality of lubricating oil compositions, wherein each one of the wear tests is selected to be indicative of performance of a selected part of or an entire running internal combustion engine.

8. (Currently Amended) A [[The method of claim 7, further comprising the step of]] high throughput method for screening lubricating oil compositions, under program control, comprising the steps of:

(a) providing a plurality of different lubricating oil composition samples comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive;

(b) measuring wear stability of each sample to provide wear stability data for each sample, wherein the wear stability is measured by a test selected from the group consisting of an

extreme pressure wear test, hydrodynamic wear test, corrosive wear test and a combination thereof;

(c) outputting the results of step (b);

(d) systemizing the outputted results of step (c) of each of the extreme pressure, hydrodynamic and corrosive wear tests, thereby assembling a library of the outputted results associated with each of the plurality of lubricating oil compositions, wherein each one of the wear tests is selected to be indicative of performance of a selected part of or an entire running internal combustion engine; and

(e) storing a reference value selected from desired operating conditions or statutory requirements and comparing the outputted results of at least one of the extreme pressure, hydrodynamic and corrosive wear tests of the plurality of lubricating oil compositions to the stored reference value in accordance with the program control.

9. (Original) The method of claim 8, further comprising the step of assigning a “pass/fail” value to each of the outputted results of the plurality of lubricating oil compositions stored in the library upon comparison thereof to the reference value in accordance with the program control.

10. (Previously Presented) The method of claim 9, further comprising the steps of selecting a group of the lubricating oil compositions based on the “pass/fail” values and providing a cost analysis of each of the selected one of the group of lubricating oil compositions to select at least one optimal lubricating oil composition.

11. (Currently Amended) A [[The method of claim 7, further comprising the step of]]
high throughput method for screening lubricating oil compositions, under program control,
comprising the steps of:

(a) providing a plurality of different lubricating oil composition samples comprising (i) a
major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least
one lubricating oil additive;

(b) measuring wear stability of each sample to provide wear stability data for each
sample, wherein the wear stability is measured by a test selected from the group consisting of an
extreme pressure wear test, hydrodynamic wear test, corrosive wear test and a combination
thereof;

(c) outputting the results of step (b);

(d) systemizing the outputted results of step (c) of each of the extreme pressure,
hydrodynamic and corrosive wear tests, thereby assembling a library of the outputted results
associated with each of the plurality of lubricating oil compositions, wherein each one of the
wear tests is selected to be indicative of performance of a selected part of or an entire running
internal combustion engine; and

(e) analyzing a change of the outputted results of each of the extreme pressure,
hydrodynamic and corrosive wear stability tests stored in the library upon changing the plurality
of conditions in accordance with the program control.

12. (Original) The method of claim 11, wherein the step of analyzing includes generating a slope associated with the outputted results of each of the extreme pressure, hydrodynamic and corrosive wear stability tests of the plurality of lubricating oil compositions to identify a pattern of performance thereof in response to changing of the plurality of conditions in accordance with the program control.

13. (Original) The method of claim 1, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

14. (Original) The method of claim 2, further comprising the step of displacing the plurality of lubricating oil compositions to a testing station configured to provide at least one of the extreme pressure wear stability test, hydrodynamic wear test, and the corrosive wear test to determine anti-wear properties of each of the tested lubricating oil compositions in accordance with the program control.

15. (Original) The method of claim 14, further comprising the steps of storing each of the plurality of lubricating oil composition in a respective vessel, and arranging a plurality of vessels in a predetermined sequence.

16. (Original) The method of claim 15, wherein a robotic assembly sequentially retrieves and displaces the plurality of vessels to the testing station in accordance with the program control for determination of anti-wear properties of the plurality of lubricating oil compositions.

17. (Original) The method of claim 15, wherein a robotic assembly selectively retrieves and delivers individual vessels to the testing station in accordance with the program control for determination of anti-wear properties of the plurality of lubricating oil compositions.

18. (Original) The method of claim 15, further comprising the step of providing the testing station with at least one apparatus configured to conduct the at least one of extreme pressure, hydrodynamic and wear stability tests, the apparatus being selected from the group consisting of a Pin and Vee Block, a Four-Ball Block and a combination thereof.

19-35. (Cancelled)